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Small Business Research Summary

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CHARACTERIZATION OF INNOVATIONS INTRODUCED ON THE U.S. MARKET IN 1982

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I. Purpose of Study

This study examines the relationship between the innovation process and firm size.

II. Highlights

- In 1982, there were 2.4 times as many small firm innovations as large firm innovations per employee, including the employment of firms that did not innovate.
- Small firms are more inclined to innovate regardless of the importance of the innovation.
- Small firm innovative technology was twice as likely to be licensed or purchased as that in large firm innovations, although the number of such cases was limited for both large and small firms.
- A small firm innovation was four times as likely to be financed by private funds from outside the firm.
- The average period of time between invention and innovation was the same for both small and large firms, 4.3 years.
- A large firm innovation was 42 percent more likely to be sold to the military and 32 percent more likely to be sold to civilian government. A small firm innovation was 22 percent more likely to be embodied in sales to other businesses.
- Employment in a small firm was 22 percent more likely to increase subsequent to the introduction of an innovation.

III. Scope and Methodology

A total of 8,074 innovations in 362 4-digit industries was identified in 1982 in 46 technology, engineering, and trade journals. For 4,938 of these innovations, firm size (more or fewer than 500 employees) was determined using published company directories. The firm size for 3,136 innovations could not be identified in this manner. A random sample of 600 firms was selected and surveyed by telephone. As some of the 375 responding firms were not found in published directories, the sample was used to allocate the remaining 3,136 innovations by firm size, using the average number of innovations per small firm and per large firm for companies in the directories. Innovations by firm size were compared to industry employment by firm size, using a special tabulation of the 1977 economic censuses for the U.S. Small Business Administration. The comparison of 1977 employment with 1982 innovations corresponds to the average period between invention and innovation.

IV. Summary

There is a greater propensity of small firms to innovate, combined with the reduced likelihood that their innovations are embodied in sales to government.

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